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of the majority of noble men but is not true of those generally regarded as the finest fruit of social development. These rare people, I will venture to say, act as they do in great moral crises without reference to the effect of their conduct on their self-esteem. Or, rather, one had better say that in them the consciousness of self has lost its original narrow individualistic meaning and has taken on a social significance. McDougall's history of the development of self-consciousness appears to me defective in that he does not recognize that the completed moralizing process involves the existence of a form of social consciousness which includes the idea of the self. This seems to me the most serious criticism one can make of a book, which because of considerable originality and definiteness of presentation, cannot fail to stir up much discussion. Considered as a whole, its most striking characteristic is the masterly firmness and thoroughness with which it traces the development of man up to his complete socialization on the basis of fundamental innate dispositions and social interaction.

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The Psychology of Skill, with Special Reference to its Acquisition in Typewriting, by W. F. Book. University of Montana Publications, Bulletin No. 53. Psychological Series, No. 1, pp. 188.

The object of this study, the work of which was done in major part at Clark University, was two-fold. (1) To determine accurately the course of the practice curve for a number of individuals. (2) To analyze consciousness for the different practice stages shown by the individual curves.

Recording apparatus was attached to an Underwood typewriter and gave records on a smoked drum of the following items: (1) Stroke for each letter; (2) strokes on the word spacer; (3) movement of the carriage for a new line. Simultaneously with these, records were made on the drum of (4) the time spent by the writer (in the visual method of writing) in looking at the copy, the experimenter recording this by means of a separate key; (5) time marker beating seconds; (6) pulse rate of the writer while writing. The normal pulse rate was taken in another manner each time before beginning. Detailed introspective observation was required of the writers at all times. Eleven observers participated, including beginners who continued practice until a semi-expert stage had been reached, and professional and expert writers. Both the touch and the visual methods of writing were employed. In addition, three of the observers wrote practice sentences until an expert speed was obtained in these sentences.

The presentation of the results falls, roughly, into two parts. (1) Analysis of the learning consciousness. (2) Explanation of the characteristics of the practice curves. For both the visual and the touch methods of writing four stages of practice are made out. For the touch method they are the following: (a) The beginning stage, when the whole writing process involves a number of definite conscious steps. (b) The letter association stage, which is reached when the "sight of the letter in the copy or the first pronunciation of it calls up at once the direct movement for striking the proper key." (c) Syllable and word association stage. This is reached when incipient pronunciation of the word calls forth at once the group of movements, when the motor-tactual image for the group of strokes (general 'feel' for the group) as a means of writing is being eliminated. (d) Expert stage, writing by phrases and sentences. This is reached when the writing becomes continuous, the strokes following the incipient pronunciation of the words without breaks or further conscious processes. In learning by the visual method these several practice stages are represented by different conscious factors, but in the expert stage the

visual approaches the touch method as regards the conscious factors that are involved. The details of the analysis for both methods are concerned with the way in which these different practice stages are developed, by 'short-circuiting' and elimination of conscious processes present at first, by changes in the direction and distribution of the attention, by the development of new ways of getting the copy, by the appearance, development and final disappearance of motor-tactual imagery for the individual stroke, for the small group of strokes, for syllables and words, and for larger groups.

The explanation of the characteristics of the practice curves brings into consideration a complex relationship of factors. The initial rapid rise in all curves is due to the fact that several lower order habits (ways of writing in the letter and the syllable and word association stages) are then developing together, and each more rapidly than later. Higher order habits (those involved in phrase and sentence writing) do not begin fully until the lower are fairly well developed. But the Bryan and Harter interpretation of plateaus is wrong in so far as it attributes them to a necessary and slow perfecting of the lower order habits before the higher can begin at all. These long plateaus occur towards the close of the syllable and word association stage, which may therefore be called a 'critical stage.' At this point the learner is very prone to do one of two things. Either he will (1) relax his effort and fall back to lower order habits of writing instead of pushing ahead; *i.e.*, he is 'caught' in the more or less fixed habits of this stage. Or, (2) he will assume a freedom and skill that he does not yet possess, will direct his effort to speed alone and take it from those processes that still require some conscious direction. In this lies the explanation of the long plateaus. The objective records and the pulse rate reinforce this explanation from the direct observations. High pulse rate always goes with great effort, but the effort may be wrongly directed (to speed alone), and result in a slow rate of writing. The latter was the case for the practice sentences and their plateaus at this stage of practice. For the regular writing from copy a constant high pulse rate is correlated with periods of several days or more of rapid rise in the curve, and a constant low pulse rate is correlated with the plateaus. The explanation for the smaller irregularities in the daily practice curves is more complex. In all cases, taking the attention entirely from processes that still need some conscious direction, or directing the effort to speed alone, results in many mistakes in writing and in 'education in error', which has to be unlearned again before further progress can be made. The effort is apt to be wrongly and inefficiently directed in this way on 'bad' days, at the beginning of each daily period of writing, and at other times when the learner becomes conscious that his rate of writing is low. Maximum effort counts only when the conditions, objective and subjective, for fast and correct writing are favorable. On the other hand, it is maximum effort alone under these favorable conditions that makes for progress in learning, establishes new 'short-circuits' and higher habits of writing.

The monograph is abundantly illustrated by quotations from the direct observations of the learners, by tables, curves and specimen drum records.

F. KUHLMANN.

Nervous and Mental Diseases, by A. CHURCH and F. PETERSON.

With 341 illustrations. Sixth edition, thoroughly revised. Philadelphia and London, W. B. Saunders Co., 1908. pp. 945. Price, \$5.00 net.

The fourth edition of this admirable text-book (1903) was noticed in Vol XV, p. 452, of the *Journal*. The fact that the work has passed